at the back of each shuttle-box, on which they slide very freely up and down by their brass holes s s, as shewn in fig. 2.

No. IV.

APPARATUS FOR TAKING IN THE SHOOT OF WIDE-WOVEN FABRICS.

The sum of THREE GUINEAS *was presented to Mr.* WILLIAM ROOKE, 17 *Russell Court, Drury Lane, for his Apparatus for Taking in the Shoot of Wide-woven Fabrics; a Model of which has been placed in the Society's Repository.*

THERE are various woven fabrics in use for coach-linings, sofa and chair-covers, curtains, and other ornamental furniture, of which the shoot is wholly, or in part, of horse-hair, or vegetable fibre of different kinds. The fibre is in lengths somewhat exceeding the width of the work, and is placed in the shed by doubling it on a hook, by which it is conveyed into it, and laid straight in the position of the ordinary spun shoot, which is thrown by a shuttle. This method is found to be extremely inconvenient when the work exceeds a certain width, on account of the great distance to which the workman must necessarily extend his arm in introducing the hook.

The apparatus by which Mr. Rooke remedies this inconvenience enables the weaver, by a limited and convenient motion of his hand, to throw the long hook through a wide warp, and return it while it draws in the shoot.

The batten A A B (fig. 1) is, for the sake of convenience, represented of narrower proportion than the wide one for which this contrivance is intended; the action is, however, equally well shewn. C is the space for the warp or shed; D D, the hook which fetches the shoot; the guides E E, in which it moves, are as wide apart as the limits of the intended motion. On the hook is fixed a stud F, to be attached to the endless band G G; this band passes round the small pulley H, and round the large one I I, consequently, when this pulley is turned, it will move the hook. To the back of this large pulley I (as shewn

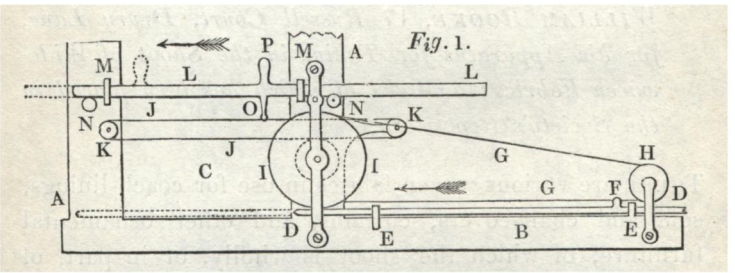
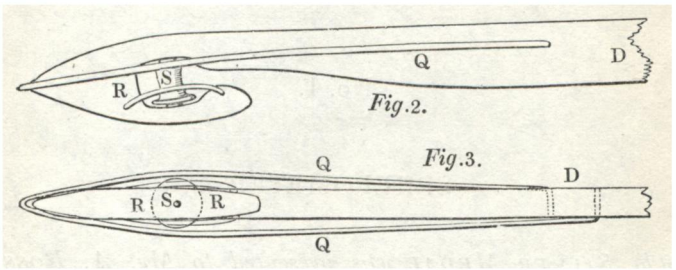


Fig. 1.

by dotted lines) is attached another pulley, as much smaller as the convenient motion of the weaver's hand is less than the warp's width. Around this small pulley is passed another endless band J J, for the purpose of moving it, which band is stretched to any convenient degree of tension over the two pulleys K K; then, for the convenient moving of the band, a light bar L L is placed parallel to it in guides M M, and on the rollers N N. This bar, being attached to the band J by its pin O, will, on being moved by its handle P in the direction of the arrow, pull the band with it, and thus turn the pulleys; which, by the band G, will send the hook D the same way across the warp. On returning the bar B, the hook D will be returned, and bring with it the shoot which the attendant has laid in it.

It must be evident that the proportion of the two pulleys I I, will determine the difference of motion between the hand on the bar L and the hook D D.

Figures 2 and 3 are top and side-views of the hook. The wires Q Q, and the form of the hook, ensure its free passage to and fro through the shed, and both wires Q Q and R R guide the material of the shoot into the hook,



and keep it to the middle of the roller S, which is placed within the hook for the purpose of facilitating the withdrawal of the hook without injuring or dragging the shoot.